



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,301	06/13/2001	Satoru Maeda	450100-03286	5547
20999 7590 04/23/2007 FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			EXAMINER HOYE, MICHAEL W	
			ART UNIT	PAPER NUMBER
			2623	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/23/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No. 09/880,301	Applicant(s) MAEDA ET AL.	
	Examiner Michael W. Hoye	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicants' arguments filed on August 24, 2006 have been fully considered but they are not persuasive.

As a general note, the Applicants' amendments to the claims actually describe the prior art of record in more specific detail.

Regarding amended independent claim 13, the Applicants argue on pages 12-14 that, "Hylton does not disclose, "[the] display apparatus is arranged to receive and demodulate only a respective signal transmitted from the channel selection apparatus, the channel selection apparatus having a plurality of demodulation sections for selecting the respective signal in accordance with the respective information transmitted from the display apparatus". (see the top of pg. 14).

In response, the Examiner respectfully disagrees with the Applicants because Hylton clearly discloses that "the display apparatus is arranged to receive and demodulate only a respective signal transmitted from the channel selection apparatus" as met by the display apparatus (television set or TV 103 in Fig. 1) receiving only the selected program through the set-top 100 (including TIM 101 and DET 102) from the channel selection apparatus (shared processing system 10), which includes channel selector 11 and program selector 13 associated with or serving the set-top 100 that sent the request (see Fig. 1 and col. 8, line 6 - col. 9, line 28). More specifically, Hylton teaches that packets for the selected program (signal) are included in one digital transport stream as provided by multiplexer 15 (col. 6, lines 5-10). (The packets in

Art Unit: 2623

the stream include identifiers (col. 6, lines 10-17), which are used by the DET 102 (at the display apparatus) to capture and process digitized and compressed information for the selected program from the transport stream in order to produce signals to drive an audio/video device such as a TV 103 (col. 9, lines 8-28).) The multiplexer 15 supplies the transport stream containing the selected program to a modulator 17, and the modulator 17 modulates the transport stream into an RF channel for wireless broadcast via the antenna 27 (col. 6, lines 18-34). The display apparatus system (TIM 101, DET 102 and TV 103) tunes (201) to the respective broadcast signal (RF channel) and demodulates 203 the respective signal transmitted from the respective channel selector 11/program selector 13 of the shared processing system 10. Therefore, the claimed, “the display apparatus is arranged to receive and demodulate only a respective signal transmitted from the channel selection apparatus”, is met by Hylton as described above. The claimed “channel selection apparatus having a plurality of demodulation sections for selecting the respective signal in accordance with the respective information transmitted from the display apparatus” is met by the shared processing system 10 and more specifically the channel selectors 11 in Fig. 1 as described above.

Regarding the Applicants’ additional arguments and comments presented on pages 12-13, the Examiner requests that the Applicants’ provide support for their arguments from the cited reference(s), as well as support from the Applicants’ Specification in any forthcoming responses.

Regarding the Applicants’ remark on page 12 that “each set-top terminal could also select the individual selected program that another set-top terminal selected”, the Examiner respectfully disagrees because although two or more users may potentially select the same program, Hylton clearly teaches that the shared processing system 10 also communicates signaling information

Art Unit: 2623

with the set-top terminals to identify programs that users select and to provide any information to the set-top terminals 100 needed to permit reception, decoding and presentation of a selected program from the broadcast stream (see col. 4, line 64-col. 5, line 2). Also note the discussion of packet identifiers in the Hylton reference as described above, which relate to the specific user (or set-top terminal/display) that selected a specific channel.

The Applicants also argue on page 12 that the amended claim language is “distinguishable from Hylton wherein TV 103 has no demodulator but receives a demodulated signal from the set-top box that can demodulate any signal that is multiplexed in the broadcast signal.”

In response, the Examiner is unsure as to what the Applicants are referring to regarding the word “demodulate” in view of the comments made above, since the set-top terminal tunes to and demodulates a specific channel transmitted to the terminal. In addition, Hylton discloses demodulation at the TV as described in col. 16, lines 8-32. The Applicants may be referring to demultiplexing or decoding but the remarks are unclear in view of the current claim language as well as the remarks directed to the Hylton reference.

Regarding the Applicants’ remarks the bottom of page 12 that, “The presented invention has the advantages of (1) the display device does not require a tuner for selecting any one signal from a multiplexed signal, and (2) each user’s respective display can be restricted from receiving an demodulating programs requested by another user”, the Examiner again respectfully requests clarification from the Applicants and support from their specification, since a tuner is needed to receive a RF signal transmitted to a display. Again the Examiner is unsure if the Applicants are referring to a demultiplexer and/or decoder instead of a “tuner”, and the display of Hylton

Art Unit: 2623

receives programs specifically requested by the user associated with that display apparatus as discussed above.

Similar remarks and arguments are also presented on page 13 and the Examiner refers to the relevant remarks as described above.

Regarding amended independent claim 1, and similarly for amended independent claims 7 and 19, the Applicants make similar arguments as described above for claim 13 on pages 14-16 with regards to the Hylton reference, and the Examiner respectfully disagrees with the Applicants as discussed above. As stated above, the Hylton reference specifically teaches utilizing packet identifier(s) to capture and process digitized and compressed information for the selected program from the transport stream and thereby producing signals to drive an audio/video device such as a TV 103 (see col. 9, lines 22-28).

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 13-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Hylton et al (USPN 5,708,961), previously cited by the Examiner.

To serve as a brief overview, the Hylton reference discloses a system for providing wireless on-premises video distribution over a RF frequency in the home. The system consists of a Shared Processing System 10 (containing multiple Channel Selection Interfaces 11, multiple

Art Unit: 2623

Program Selection Interfaces 13, a modulator 17, and a bi-directional antenna 27) and multiple user stations (each of which comprises an STB 100, a TV 103, a bi-directional antenna 29, and a remote control 85). The Shared Processing System serves to receive programming from a digital broadband network 5 and distribute it over an in-house wireless RF modulated frequency to the user stations.

Regarding claim 13, the claimed “display apparatus for receiving a radio signal from a channel selection apparatus connected to a communication circuit and displaying an image based on an image signal of the received signal on a display element” is met by the antenna 29, which receives the broadcast channel and supplies the signal to the TIM 101, which demodulates the signal and supplies the transport stream to the DET 102. The DET 102 then decodes the program and produces the signal on a TV 103 [col. 9, lines 8-28]. The claimed “wherein the display apparatus is arranged to transmit respective information to the channel selection apparatus that includes indicia associated with said display apparatus” is met by the Hylton reference wherein it teaches sending a request from the DET 102 to the shared processing system 10 via antenna 27 and transceiver 21. After the transceiver 21 receives the request, it provides the request to the controller 19 for processing. The controller will recognize the message (request) as relating to a channel selection by the particular one of the set-top terminals 100 [col. 8, lines 35-67]. In other words, the controller can recognize the particular set-top terminal because the set-top terminal identifies itself when making a request to the shared processing system 10. The claimed “display apparatus is arranged to receive and demodulate only a respective signal transmitted from the channel selection apparatus” is met by \*\* the display apparatus (television set or TV 103 in Fig. 1) receiving only the selected program through the

Art Unit: 2623

set-top 100 (including TIM 101 and DET 102) from the channel selection apparatus (shared processing system 10), which includes channel selector 11 and program selector 13 associated with or serving the set-top 100 that sent the request (see Fig. 1 and col. 8, line 6 - col. 9, line 28). More specifically, Hylton teaches that packets for the selected program (signal) are included in one digital transport stream as provided by multiplexer 15 (col. 6, lines 5-10). (The packets in the stream include identifiers (col. 6, lines 10-17), which are used by the DET 102 (at the display apparatus) to capture and process digitized and compressed information for the selected program from the transport stream in order to produce signals to drive an audio/video device such as a TV 103 (col. 9, lines 8-28).) The multiplexer 15 supplies the transport stream containing the selected program to a modulator 17, and the modulator 17 modulates the transport stream into an RF channel for wireless broadcast via the antenna 27 (col. 6, lines 18-34). The display apparatus system (TIM 101, DET 102 and TV 103) tunes (201) to the respective broadcast signal (RF channel) and demodulates 203 the respective signal transmitted from the respective channel selector 11/program selector 13 of the shared processing system 10. Therefore, the claimed, “the display apparatus is arranged to receive and demodulate only a respective signal transmitted from the channel selection apparatus”, is met by Hylton as described above. The claimed “channel selection apparatus having a plurality of demodulation sections for selecting the respective signal in accordance with the respective information transmitted from the display apparatus” is met by the shared processing system 10 and more specifically the channel selectors 11 in Fig. 1 as described above.

Regarding claim 14, the claimed “display apparatus according to claim 13, wherein said display apparatus receives the radio signal from said channel selection apparatus obtained



Art Unit: 2623

through the communication circuit, forms a displaying signal from the received signal and displays an image based on the displaying signal on said display element” is met by the reception of the signal over RF link via antenna 29. After the antenna 29 receives the signal, the TIM 101 processes the signal and sends it to the DET 102 for further processing and display to TV 103 [col. 9, lines 9-28].

Regarding claim 15, the claimed “display apparatus according to claim 13, comprising means for receiving a signal of compressed data transmitted by radio from said channel selection apparatus and decompressing the received signal” is met by the decoder of the DET 102, which can process the compressed information for the selected program from the transport stream output by the TIM 101 [col. 9, lines 21-25].

Regarding claim 16, the claimed “display apparatus according to claim 13, further comprising: instruction input acceptance means for accepting an operation instruction input of the user; and instruction information transmission means for transmitting by radio at least instruction information to be transmitted to said channel selection apparatus from within instruction information of the operation instruction input accepted by said instruction input acceptance means” is met by the DET 102, which serves to receive the program selection from the remote control 85 and supply the channel request to the TIM 101 for wireless transmission via antenna 29 [col. 8, lines 35-40]. Antenna 27 at the Shared Processing System 10, then serves to receive the channel request from antenna 27 and issue a command to the controller 19 to control the channel and program selections interfaces (11 and 13, respectively) [col. 8, lines 60-66].

Regarding claim 17, the claimed “display apparatus according to claim 13, further comprising: transmission instruction input acceptance means for accepting a transmission instruction input from the user; and transmission information transmitting means for transmitting information corresponding to information indicated by the transmission instruction input accepted by said transmission instruction input acceptance means as transmission information by radio” is met by the DET 102, which serves to receive the program selection from the remote control 85 and supply the channel request to the TIM 101 for wireless transmission via antenna 29 [col. 8, lines 35-40]. Antenna 27 at the Shared Processing System 10, then serves to receive the channel request from antenna 27 and issue a command to the controller 19 to control the channel and program selections interfaces (11 and 13, respectively) [col. 8, lines 60-66].

Regarding claim 18, the claimed “display apparatus according to claim 13, wherein said display apparatus receives a plurality of signals transmitted by radio from said channel selection apparatus and displays an image based on an image signal of one of the signals on said display element” is met by the fact that the shared processing system 10, can modulate multiple signals onto the in-home wireless RF link for reception by different user terminals 100. The plurality of broadcasting signals can be received by the plurality of channel selection circuits 11 in the shared processing system 10 [col. 5, lines 58-60 & col. 6, lines 2-4].

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2623

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-12 and 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hylton et al. (USPN 5,708,961), in view of Phillips et al (USPN 6,072,994), both cited by the Examiner.

Regarding claim 1, note the Hylton et al reference which discloses a “television reception system”. The claimed “channel selection apparatus for receiving broadcasting signals, and having a plurality of channel selection sections each having a respective demodulation section for selecting respective broadcasting programs from within the broadcasting signals in accordance with instructions of respective users and transmitting respective signals of the selected broadcasting programs by radio, said channel selection apparatus being connected to a communication circuit” is met by the Shared Processing System 10 [Fig. 1], which serves to receive instructions from a user via remote control interface 85, TIM 101, and antennas 29 and 27 over a wireless RF connection [col. 8, line 6 - col. 9, line 28]. The user instruction then serves to issue a command to the controller to control the channel selector 11 and program selector 13 to select a program from the digital broadband network 5 [col. 8, lines 60-65]. The modulator then serves to modulate the selected program into a transport stream for wireless broadcast via antenna 27 to the antenna 29 of the user terminal 100 [col. 9, lines 6-10]. The claimed “wherein the channel selection apparatus includes a multicoupler to permit transmitting and receiving of signals on different frequencies on the same antenna, either alone or simultaneously and without interfering with one another” is met in-part by Hylton et al which teaches transmitting using spread spectrum (frequency hopping on different frequency bands) modulation [col. 3, lines 24-25 & col. 6, lines 35-57] and code-division multiple access (CDMA)

Art Unit: 2623

techniques. It is even extremely clear in Figure 1 that only one bi-directional antenna 27 is used.

Also, Hylton clearly points out that the use of spread spectrum for the on premises distribution presents the advantage of multiple spread spectrum systems operating independently of each other within the same band. Thus multiple independently tuned television sets may operate without interference within the same premise and in adjoining premises [col. 7, lines 50-65].

Hylton does not explicitly disclose a “multicoupler” coupled to the antenna. However, Phillips et al specifically teaches that a sophisticated tunable antenna multicoupler may be used in place of filters and duplexers in order to further eliminate unwanted signal noise or crosstalk and to pick out the signal of interest from among multiple signals or strong interference (see Fig. 5 and col. 25, line 52 – col. 26, line 6). In addition to, the multiplexer of Phillips et al combines multiple parts into a single integral part. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the Hylton et al reference, which discloses a transmitting and receiving antenna, with the antenna system of Phillips et al, which receives and transmits multiple channels on the same antenna and may further include the use of a multicoupler for the advantages of eliminating unwanted signal noise as well as reducing the number of parts in the system as described above. One of ordinary skill in the art would have been led to make such a modification since multicoupler devices are well known in the art and specifically used for the advantages given above. The claimed “a plurality of display apparatus each for receiving and demodulating only the respective signal from said channel selection apparatus and displaying an image based on an image signal of the received signal on a display element thereof” is met by the antenna 29, which receives the broadcast channel and supplies the signal to the TIM 101, which demodulates the signal and supplies the transport stream to the

Art Unit: 2623

DET 102. The DET 102 then decodes the program and produces the signal on a TV 103 [see col. 8, line 6 - col. 9, line 28 and more specifically col. 9, lines 8-28], also note the relevant remarks made in the rejection of claim 13.

Regarding claim 2, the Hylton et al reference further discloses the claimed “television reception system according to claim 1, wherein said channel selection apparatus includes reception means for receiving a signal transmitted thereto through the communication circuit, and means for transmitting the signal received by said reception means by radio, and said display apparatus receives the radio signal from said channel selection apparatus, forms a displaying signal from the received signal and displays an image based on the displaying signal on said display element” as met by the antenna 27 of the shared processing system 10, for receiving user channel selection over the RF link and sending program selection video over the same RF link to the user antenna 29 for display at the TV 103 [col. 8, line 35 – col. 9, line 28].

Regarding claim 3, the Hylton et al reference further discloses the claimed “television reception system according to claim 1, wherein said channel selection apparatus transmits a signal of compressed data by radio, and said display apparatus includes decompression means for decompressing the data of the received signal from said channel selection apparatus” as met by the decoder of the DET 102, which can process the compressed information for the selected program from the transport stream output by the TIM 101 [col. 9, lines 21-25].

Regarding claim 4, the Hylton et al reference further discloses the claimed “television reception system according to claim 1, wherein said display apparatus includes instruction input acceptance means for accepting an operation instruction input of the user, and instruction information transmission means for transmitting by radio at least instruction information to be

Art Unit: 2623

transmitted to said channel selection apparatus from within instruction information of the operation instruction input accepted by said instruction input acceptance means, and said channel selection apparatus includes control means for receiving the instruction information transmitted by radio from said display apparatus and controlling, when the received instruction information is for said channel selection apparatus itself, so as to perform processing based on the instruction information” as met by the DET 102, which serves to receive the program selection from the remote control 85 and supply the channel request to the TIM 101 for wireless transmission via antenna 29 [col. 8, lines 35-40]. Antenna 27 at the Shared Processing System 10, then serves to receive the channel request from antenna 27 and issue a command to the controller 19 to control the channel and program selections interfaces (11 and 13, respectively) [col. 8, lines 60-66].

Regarding claim 5, the Hylton et al reference further discloses the claimed “television reception system according to claim 1, wherein said display apparatus includes transmission instruction input acceptance means for accepting a transmission instruction input from the user, and transmission information transmitting means for transmitting information corresponding to information indicated by the transmission instruction input accepted by said transmission instruction input acceptance means as transmission information by radio, and said channel selection apparatus includes transmission information reception means for receiving the transmission information transmitted thereto by radio from said display apparatus, and transmission information signaling means for signaling the transmission information received by said transmission information reception means through the communication circuit” as met by the DET 102, which serves to receive the program selection from the remote control 85 and supply the channel request to the TIM 101 for wireless transmission via antenna 29 [col. 8, lines 35-40].

Art Unit: 2623

Antenna 27 at the Shared Processing System 10, then serves to receive the channel request from antenna 27 and issue a command to the controller 19 to control the channel and program selections interfaces (11 and 13, respectively) [col. 8, lines 60-66].

Regarding claim 6, the Hylton et al reference further discloses the claimed “television reception system according to claim 1, wherein said channel selection apparatus can select a plurality of broadcasting signals simultaneously and transmit signals of a plurality of broadcasting programs selected by a user in a separable state from each other by radio, and said display apparatus receives the signals transmitted by radio from said channel selection apparatus and displays an image based on an image signal of one of the signals on said display element” as met by the fact that the shared processing system 10, can modulate multiple signals onto the in-home wireless RF link for reception by different user terminals 100. The plurality of broadcasting signals can be received by the plurality of channel selection circuits 11 in the shared processing system 10 [col. 5, lines 58-60 & col. 6, lines 2-4].

Regarding claim 7, note the Hylton et al reference which discloses the claimed “channel selection apparatus for receiving broadcasting signals, and having a plurality of channel selection sections each having a respective demodulation section for selecting respective broadcasting programs from within the broadcasting signals in accordance with instructions of respective users and transmitting respective signals of the selected broadcasting programs by radio for reception and demodulation by a display apparatus of the respective users; said channel selection apparatus being connected to a communication circuit” as met by the shared processing system 10 [Fig. 1] including channel selectors 11, which serves to select broadcast program from the digital broadband network 5 in accordance with user selections sent via remote control 85 and

Art Unit: 2623

DET 102 over wireless RF link via antennas 29 and 27, also note the relevant remarks made in the rejection of claim 13. The Shared Processing System 10 then modulates the selected signals onto the RF frequency band and transmits them to the user terminals 100 via antenna 27 [col. 8, line 6 – col. 9, line 28]. The claimed “wherein the channel selection apparatus includes a multicoupler to permit transmitting and receiving of signals on different frequencies on the same antenna, either alone or simultaneously and without interfering with one another” is met in-part by Hylton which teaches transmitting using spread spectrum (frequency hopping on different frequency bands) modulation [col. 3, lines 24-25 & col. 6, lines 35-57] and code-division multiple access (CDMA) techniques. It is even extremely clear in Figure 1 that only one bi-directional antenna 27 is used. Also, Hylton clearly points out that the use of spread spectrum for the on premises distribution presents the advantage of multiple spread spectrum systems operating independently of each other within the same band. Thus multiple independently tuned television sets may operate without interference within the same premise and in adjoining premises [col. 7, lines 50-65]. Hylton does not explicitly disclose a “multicoupler” coupled to the antenna. However, Phillips et al specifically teaches that a sophisticated tunable antenna multicoupler may be used in place of filters and duplexers in order to further eliminate unwanted signal noise or crosstalk and to pick out the signal of interest from among multiple signals or strong interference (see Fig. 5 and col. 25, line 52 – col. 26, line 6). In addition to, the multiplexer of Phillips et al combines multiple parts into a single integral part. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the Hylton et al reference, which discloses a transmitting and receiving antenna, with the antenna system of Phillips et al, which receives and transmits multiple channels on the same



Art Unit: 2623

antenna and may further include the use of a multicoupler for the advantages of eliminating unwanted signal noise as well as reducing the number of parts in the system as described above.

One of ordinary skill in the art would have been led to make such a modification since multicoupler devices are well known in the art and specifically used for the advantages given above.

Regarding claim 8, the Hylton et al reference further discloses the claimed “channel selection apparatus according to claim 7, comprising: reception means for receiving a signal transmitted thereto through the communication circuit; and means for transmitting the signal received by said reception means by radio” as met by the antenna 27 for receiving a user selection transmitted by antenna 27 through RF link [col. 8, lines 40-42] and the antenna 27 that transmits the signal from the shared processing system 10 to the user terminals via RF link [col. 9, lines 6-11].

Regarding claim 9, the Hylton et al reference further discloses the claimed “channel selection apparatus according to claim 7, wherein the signal to be transmitted by radio is in the form of compressed data” as met by the decoder of the DET 102, which can process the compressed information for the selected program from the transport stream output by the TIM 101 [col. 9, lines 21-25].

Regarding claim 10, the Hylton et al reference further discloses the claimed “channel selection apparatus according to claim 7, further comprising control means for receiving instruction information transmitted by radio from a display apparatus and controlling, when the received instruction information is for said channel selection apparatus, so as to perform processing based on the instruction information” as met by Antenna 27 at the Shared Processing

Art Unit: 2623

System 10, which serves to receive the channel request from antenna 27 and issue a command to the controller 19 to control the channel and program selections interfaces (11 and 13, respectively) [col. 8, lines 60-66].

Regarding claim 11, the Hylton et al reference further discloses the claimed “channel selection apparatus according to claim 7, further comprising transmission information reception means for receiving transmission information transmitted thereto by radio from a display apparatus, and signaling means for signaling the transmission information received by said transmission information reception means through the communication circuit” as met by the antenna 27, which receives the transmission from antenna 29 regarding the user channel selection and signal data transceiver 21 and controller 19, which serve to act upon the received signal for selection of a channel [col. 8, lines 40-45].

Regarding claim 12, the Hylton et al reference further discloses the claimed “channel selection apparatus according to claim 7, wherein said channel selection apparatus can select a plurality of broadcasting signals simultaneously and transmit signals of a plurality of broadcasting programs selected by a user in a separable state from each other by radio” as met by the fact that the shared processing system 10, can modulate multiple signals onto the in-home wireless RF link for reception by different user terminals 100. The plurality of broadcasting signals can be received by the plurality of channel selection circuits 11 in the shared processing system 10 [col. 5, lines 58-60 & col. 6, lines 2-4].

Regarding claim 19, the claim is rejected based on similar grounds as the rejection of claim 1 as stated above.

Regarding claim 20, the Hylton et al reference further discloses the claimed “television reception system of claim 19, wherein the channel selection apparatus further comprises a transmission processing section coupled to the multicoupler to demodulate the selected broadcast programs into broadcast signals of different frequency bands from one another prior to transmitting to the display apparatus” as met by the channel selection 11 and program selection 13 sections, which demultiplex and demodulate the received and requested programs and multiplex them together for transmission via antenna 27 [Figure 1 & col. 5, line 58 – col. 6, line 4].

Regarding claim 21, the Hylton et al reference further discloses the claimed “television reception system of claim 20, wherein each display apparatus is responsive to a respective frequency band” as met by the fact that the set-top terminals can use the relevant frequency spectrum to receive programming from the shared processing system 10 [col. 7, lines 35-40]. Also, the receivers distinguish transmission from different modulators by demodulating signals using the same code as used by the respective modulators [col. 6, lines 41-44].

Regarding claim 22, the claim is rejected based on similar grounds as the rejection of claim 13 as stated above.

Regarding claim 23, the Hylton et al and Phillips et al references disclose the claimed television reception system of claim 1 as described above. Hylton and Phillips do not explicitly disclose that the channel selection apparatus as well as each display apparatus are configured to receive and transmit electronic mail and Internet information as presented in the claim. However, the Examiner takes Official Notice that it is notoriously well known in the art of interactive video distribution systems to receive and transmit electronic email and Internet

Art Unit: 2623

information for the advantage of combining personal computer related technology with interactive television systems for the convenience of having all the functionality in a single device. Therefore, it is submitted that it would have been clearly obvious to one of ordinary skill in the art at the time of the invention to have included the ability to receive and transmit electronic email and Internet information in the television reception system as claimed for the advantage given above.

Regarding claim 24, the claim is rejected based on the rejections of claims 1 and 23 as described above.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2623

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael W. Hoyer whose telephone number is **571-272-7346**.

The examiner can normally be reached on Monday to Friday from 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller, can be reached at **571-272-7353**.

**Any response to this action should be mailed to:**

Please address mail to be delivered by the United States Postal Service (USPS) as follows:

Mail Stop \_\_\_\_\_  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Except correspondence for Maintenance Fee payments, Deposit Account Replenishments (see 1.25(c)(4)), and Licensing and Review (see 37 CFR 5.1(c) and 5.2(c)), please address correspondence to be delivered by other delivery services (Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolator, etc.) as follows:

United States Patent and Trademark Office  
Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Some correspondence may be submitted electronically. See the Office's Internet Web site <http://www.uspto.gov> for additional information.

**Or faxed to: 571-273-8300**


**Hand-delivered responses should be brought to the Customer Service Window at the address listed above.**

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to customer service whose telephone number is **571-272-2600**.

Art Unit: 2623

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866-217-9197** (toll-free).

Michael W. Hoyer  
April 12, 2007



**JOHN MILLER**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**